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Multichannel Seismic-Reflection Profiles Collected Along the U. S. Continental Margin in 1978

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During 1978, the U. S. Geological Survey (USGS) contracted with Geophysical Services, Inc. (GSI) for GSI to collect 4,813 km of 48-channel seismic-reflection profiles along the continental margin between North Carolina and Maine (fig. 1). Fifteen lines were acquired perpendicular to the margin (lines 18 through 32), and six lines were acquired parallel to the margin (lines 33 through 38). The profiles were shot by the Motor Vessel (MV) CARINO and MV CECIL GREEN between May and November 1978. A 3,600-long hydrophone streamer was used; it was composed of 24 groups of 100-m length each near the ship, followed by 24 groups of 50-m length each. Tuned airgun arrays totaling 2,000 and 1,400 cubic inches of air were used by the MV CARINO and MV CECIL GREEN, respectively.

The profiles were stacked by GSI and displayed in conventional time-variant scaled format to 12 seconds of recording time with vertical scales of 2.5 inches per second and horizontal scales of 1.2 km per inch. Additional processing was applied to Line 25 across the Baltimore Canyon Trough and Line 32 across the Carolina Trough. Data collected along Line 25 over the Outer Shelf, Slope and upper Rise were restacked with 1 1/2-km-spaced velocity analyses, signature deconvolution, deep-water multiple deconvolution, velocity filtering (on shelf only), and time migration. The restacked part and remaining parts of Line 25 were converted to depth sections

having a vertical scale of 1.2 km per inch (vertical exaggeration: 2/1). Data collected along two parts of Line 32 were also restacked with signature and deep-water multiple deconvolution. Line 32 was also converted to a depth section except for the first 80 km near shore.

Profiles 18-38 may be inspected at the USGS in Woods Hole, MA 02543. Copies of the profiles may be purchased only from the National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO 80303.

This report is preliminary and has not been edited or reviewed for conformity with Geological Survey standards or nomenclature.

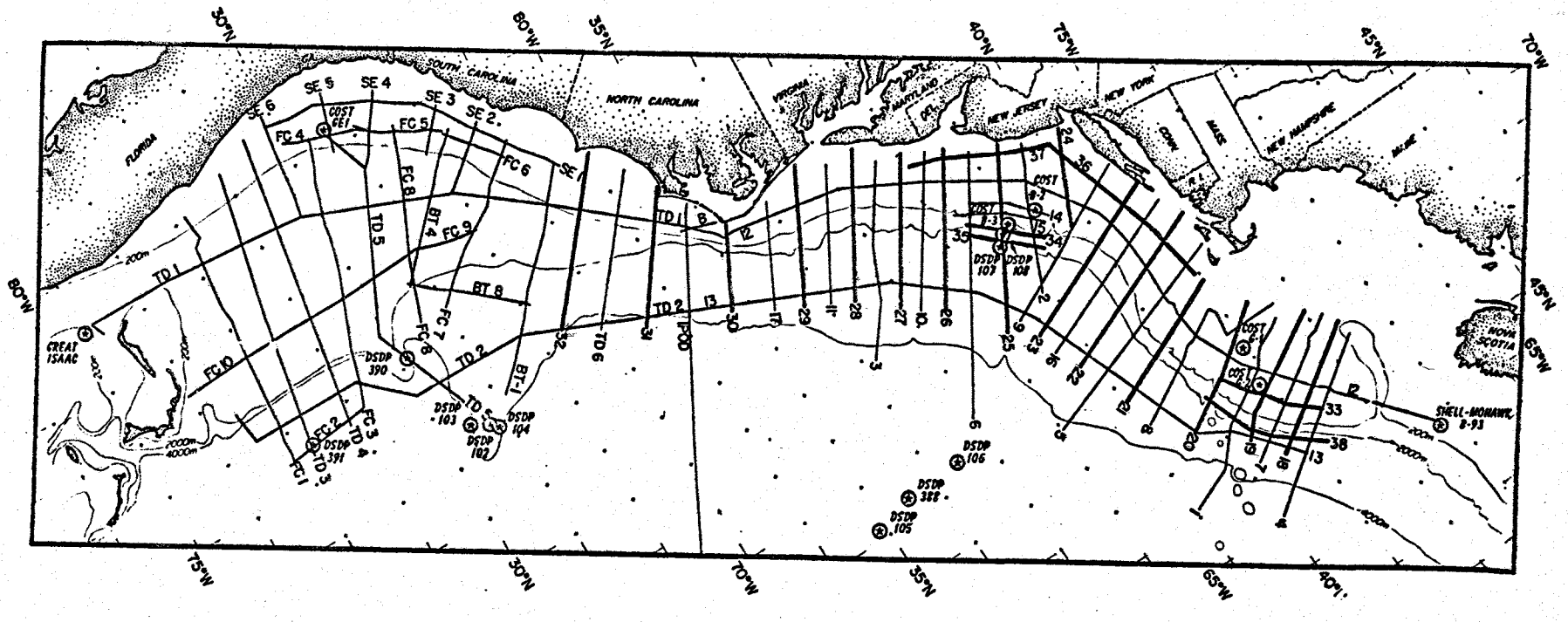

Figure 1 - In 1978, Geophysical Services Inc collected seismic-reflection profiles along lines 18-38. Other lines and drilling sites are shown for reference. DSDP, Deep Sea Drilling Project; COST, Continental Offshore Stratigraphic Test; IPOD, International Program of Ocean Drilling.